

Regional San South Sacramento County Agriculture and Habitat Lands Recycled Water, Groundwater Storage, and Conjunctive Use Program

- Environmental Mitigation or Compliance Obligations -

Benefit Calculation, Monetization, and Resiliency Tab A.4

The proposed Program has a final certified project- and program-level EIR, linked in **Feasibility & Implementation Risk Tab A.4** (RMC, 2016 and RMC, 2017a). Additional environmental documentation is still needed for project-level segments of the Program and groundwater banking, as described in the Environmental Feasibility section of the attachment in **Feasibility & Implementation Risk Tab A.1**. The completed EIR includes a variety of mitigation measures to reduce any potential impacts from the project to less than significant. The complete list and details of measures can be found in the MMRP in Appendix C of the Final EIR linked in **Feasibility & Implementation Risk Tab A.4** (RMC, 2017a). Nearly all the mitigation measures in the EIR are relevant only to construction related activities. There are five mitigation measures that reach beyond project construction that could have the potential to impact net public benefits claimed. However, the implementation of the mitigation measures would reduce those impacts so that there would no effect on the public benefits claimed. Those measures and how they relate to net public benefits are summarized below.

Biological Resources Mitigation

There are two related biological resources mitigation measures that are relevant to net public benefits claimed: *BIO-1c: Mitigate Impacts to HCP-Covered Species* and *BIO-1d: Mitigate Impacts to Sensitive Non-HCP-Covered Species*. Although the details of these two biological mitigation measure are lengthy, they are typical mitigation measures required for construction activities related to placing piping below ground in the region. In summary, these measures generally describe a variety of species to avoid, reduce, or mitigate for impacts related to project construction activities, such that conditions at the end of construction are returned to pre-construction status (for details, see MMRP in Appendix C of the Final EIR linked in **Feasibility & Implementation Risk Tab A.4**). Program public benefits were analyzed and quantified for benefits gained over no-project conditions. Since these two biological resources mitigation measures would avoid impacts and restore the project area to pre-construction conditions, public benefits modeled and claimed would be in addition to these biological mitigation obligations and thus the mitigation would have no effect on net public benefits claimed.

Hydrology and Water Quality Mitigation

There are three hydrology and water quality mitigation measures that are relevant to net public benefits claimed: *HYD-1d: Ensure Adequate Water Quality for Stone Lakes NWR*, *HYD-1e: Perform Detailed Analysis of Groundwater Impacts from Recharge Area and Diluent Wells*, and *HYD-4: Coordinate with Relevant Resource Agencies*.

Mitigation measure HYD-1d applies specifically to recycled water deliveries to Stone Lakes National Wildlife Refuge (NWR), which is a potential end user for up to 500 AFY of recycled water. The public benefits claimed in this grant application do not depend on that water going to Stone Lakes NWR. Groundwater modeling assumed all 50,000 AFY would be used for recharge (in-lieu or wintertime recharge) across the recycled water service area (RMC, 2017b). A targeted application or allocation of recycled water to Stone Lakes NWR would instead represent an opportunity to provide targeted public benefits for ecosystem enhancements that would be beyond the net public benefits claimed and thus has no net effect on the public benefits claimed.

HYD-1d: Ensure Adequate Water Quality for Stone Lakes NWR: To avoid adverse impacts to Stone Lakes NWR, Regional San shall work with USFWS to ensure that recycled water is of suitable quality before water is provided to the Refuge. Recycled water shall not be supplied to the Refuge until water quality concerns are addressed. If needed and desired by USFWS, water quality enhancement could be provided through a treatment wetland (a constructed wetland designed to remove nutrients from recycled water before discharge to the Refuge), which would be located in the Refuge.

Mitigation measure HYD-1e ensures compliance with SWRCB requirements. For the purposes of implementing this Program, recycled water provided by the EchoWater Project is presumed and expected to be suitable for the proposed uses (agricultural irrigation and passive wintertime recharge) and in compliance with regulatory requirements (Ascent, 2014). Thus, mitigation measure HYD-1e has no effect on the public benefits claimed.

HYD-1e: Perform Detailed Analysis of Groundwater Impacts from Recharge Area and Diluent Wells: As established by SWRCB Resolution No. 68-16, Regional San would complete a two-step process to comply with the policy. The first step would be to determine if the discharge (groundwater recharge with recycled water) would degrade high quality water. If there is no degradation, then the project is allowed. If there is an anticipated degradation, the discharge may be allowed if any change in water quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect present and anticipated beneficial use of such water, and (3) will not result in water quality less than that prescribed in state policies (e.g. water quality objectives in Water Quality Control Plans). The second step of the anti-degradation analysis would be to document any activities that result in discharges to such high quality waters and demonstrate that these discharges utilize the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the State. The antidegradation analysis and groundwater evaluation would be conducted at the time the recharge element is defined, and the groundwater recharge element would only be implemented if recharge can be accomplished without substantially degrading groundwater quality.

Mitigation measure HYD-4 minimizes potential thermal impacts to the Sacramento River downstream of Lake Shasta. During critically dry years when storage in Lake Shasta falls below 2,400,000 AF in April, Regional San will coordinate with Central Valley Operations staff to reduce deliveries of recycled water to farmers in April and May, if needed. Changes to recycled water deliveries due to compliance with HYD-4 are not expected to significantly impact Program operations. Modeling for 2030 climate change conditions shows only two out of the 84-year modeling simulation would HYD-4 be triggered, and for 2070 modeling only eight out of 84 years modeling would HYD-4 be triggered (RMC, 2017b). HYD-4 mitigation was incorporated into CalSim II modeling for the purposes of accounting for the mitigation in benefits quantification and monetization (CH2M, 2017; described in pages 5 to 10). HYD-4 mitigation was also incorporated into SacIWRM groundwater modeling for the same purpose (RMC, 2017b; described in page 32). Public benefits were quantified and monetized using the results of the CalSim II and SacIWRM groundwater models (TFT, 2017 and Larry Walker Associates, 2017). Because HYD-4 was built into the

models used to quantify all benefits, this mitigation measure has already been accounted for and has no effect on the public benefits claimed.

HYD-4: Coordinate Operations with Relevant Resource Agencies: To minimize potential thermal impacts to the Sacramento River downstream of Lake Shasta during critically dry years due to losses of cold water storage from reduced treated wastewater discharges, Regional San shall work with the Bureau of Reclamation and other relevant resource agencies to make appropriate operational changes in recycled water use and timing of discharge reductions in the spring months when the cold water pool in Shasta is critical. In critically dry years when storage in Lake Shasta falls below 2,400,000 AF in April, Regional San will coordinate with Central Valley Operations staff to reduce deliveries of recycled water to farmers in April and May if needed, to avoid thermal impacts to the Sacramento River below Lake Shasta, as determined by the Sacramento River Temperature Model being utilized by Reclamation in the given year.

References

Ascent Environmental. 2014. *Draft Environmental Impact Report for the Sacramento Regional County Sanitation District EchoWater Project*. March. <https://www.regionalsan.com/post/echowater-final-environmental-impact-report-feir>

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California Water Commission (CWC). 2016. *Water Storage Investment Program Technical Reference*. November.

Larry Walker Associates. 2017. *Far-Field Water Quality Analysis and Benefit Monetization in Support of WSIP Application for South County Ag Program*. August. GRANTS Physical Public Benefits tab, A.2 Water Quality Benefits Supporting Documents. File: "Regional San_WQ Salinity TM_A.1 WQ Benefit-Quantification_SecPPB.pdf"

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The Freshwater Trust (TFT). 2017. *Conceptual Ecological Plan & Ecosystem Benefits*. August. GRANTS Physical Public Benefits tab, A.1 Ecosystem Benefits. File: "Region San EcoPlan_A.1 EcoBenefits_SecPPB .pdf"